

CLAIMS.

- 5 1. A common part sublayer (CPS) adaptation device for interfacing between a narrow band network and a broad band network, said device being functionally partitioned to provide scheduling, prioritization and multiplexing of ingress traffic to the broadband network independently of the adaptation layer (AAL) type of that traffic.
- 10 2. A common part sublayer (CPS) ATM adaptation device, for interfacing between a narrow band network and a broad band network said device being functionally partitioned to provide scheduling, prioritization and multiplexing of ingress traffic to the broadband network independently of the adaptation layer (AAL) type of that traffic, and incorporating ingress and egress paths respectively to and from the broadband network, wherein said egress path provides segregation and delineation of incoming data units on to respective external data ports, and wherein said ingress path incorporates a common memory for payload storage whereby to perform multiplexing at both AAL and ATM layers.
- 15 20 3. A common part sublayer ATM adaptation device as claimed in claim 2, and arranged to schedule the dispatch of cells or packets into an asynchronous network at a substantially constant rate.
- 25 4. A common part sublayer ATM adaptation device as claimed in claim 3, wherein said egress path from the broadband network to the narrow band network is operated in a flow-through mode.
5. A common part sublayer ATM adaptation device as claimed in claim 4, wherein said segregation on to external data ports is determined from a combination of connection identifier, call state and packet type.
6. A common part sublayer ATM adaptation device as claimed in claim 5, wherein said multiplexing is controlled by a scheduling and congestion avoidance mechanism.

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7. A common part sublayer ATM adaptation device as claimed in claim 6, wherein said payload memory provides for the storage of AAL2 mini-packet SDUs and/or ATM cell SDUs.
- 5 8. A common part sublayer ATM adaptation device as claimed in claim 7, and arranged to provide an AAL2 and ATM switching function.
9. A common part sublayer ATM adaptation device as claimed in claim 7, and incorporating a service specific convergence sublayer so as to provide ATM and
- 10 IP trunking and interworking functions.
10. A common part sublayer ATM adaptation device as claimed in claim 7, and having a shared memory for data in the ingress direction so as to provide buffer storage for said ingress data.
- 15 11. A common part sublayer ATM adaptation device as claimed in claim 10, and incorporating an ingress dynamic buffer whereby to provide quality of service (QoS) control.
- 20 12. A method of interfacing a narrow band network and a broadband network via a common part sublayer (CPS) ATM adaptation device, the method comprising; in an ingress direction towards the broadband network, providing scheduling, prioritization and multiplexing of ingress traffic to the broadband network independently of the adaptation layer (AAL) type of that traffic, and, in an egress
- 25 direction from the broadband network, providing on a through path segregation and delineation of incoming data units.
13. A method as claimed in claim 12, wherein said egress path from the broadband network to the narrow band network is operated in a flow-through mode.
- 30 14. A method as claimed in claim 13, wherein said segregation on to external data ports is determined from a combination of connection identifier, call state and packet type.

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15. A method as claimed in claim 14, wherein said multiplexing is controlled by a scheduling and congestion avoidance mechanism.

5 16. A communications network arrangement, comprising a narrow band network, a broadband network, and a common part sublayer (CPS) ATM adaptation device providing an interfacing function therebetween, wherein common part sublayer ATM adaptation device is functionally partitioned to provide scheduling, prioritization and multiplexing of ingress traffic to the broadband network independently of the adaptation layer (AAL) type of that traffic, and incorporates ingress and egress paths respectively to and from the broadband network, wherein said egress path provides segregation and delineation of incoming data units on to respective external data ports, and wherein said ingress path incorporates a common memory for payload storage whereby to perform multiplexing at both AAL and ATM layers.

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20 17. Software in machine readable form for operating a common part sublayer (CPS) adaptation device for interfacing between a narrow band network and a broadband network, said software being adapted to functionally partition the device so as to provide scheduling, prioritization and multiplexing of ingress traffic to the broadband network independently of the adaptation layer (AAL) type of that traffic